

4. (Once amended) A method for providing data packet congestion control for a data network having a buffer circuit, each data packet comprising a priority, the method comprising the steps of:

determining the particular service flow associated with the data packet;

detecting a current data packet flow rate through the data network for the particular service flow associated with the data packet;

quantizing the data packet flow rate into at least one level;

detecting a buffer circuit depth;

determining the priority associated with a current data packet; and

processing the current packet in response to the current data packet flow rate, the data packet priority, and the current buffer circuit depth; and

determining a probability of dropping a data packet using the current data packet flow rate, the data packet priority, and the current buffer circuit depth to access, from a matrix of plots indicating the probability of dropping the data packet, each of the plots within the matrix of plots indicating the packet drop probability as a function of the buffer circuit depth.

[Rewrite claim 5 as follows:]

25. (Once amended) A method for providing data packet congestion control for a data network having a buffer circuit, each data packet comprising a priority, the method comprising the steps of:

determining the particular service flow associated with the data packet;

detecting a current data packet flow rate through the data network for the particular service flow associated with the data packet;

quantizing the data packet flow rate into at least one level;

detecting a buffer circuit depth;

determining the priority associated with a current data packet;

processing the current packet in response to the current data packet flow rate, the data packet priority, and the current buffer circuit depth; and

determining a probability of dropping a data packet using the current data packet flow rate, the data packet priority, and the current buffer circuit depth to access, from a matrix of plots indicating the probability of dropping the data packet, each of the plots within the matrix of plots indicating the packet drop probability as a function of the buffer circuit depth with plots that have the same shape and parameters as the plots used for Random Early Discard congestion control techniques.

[Rewrite claim 6 as follows:]

6. (Once amended) A method for providing data packet congestion control for a data network having a buffer circuit, each data packet comprising a priority, the method comprising the steps of:

determining the particular service flow associated with the data packet;

detecting a current data packet flow rate through the data network for the particular service flow associated with the data packet;

quantizing the data packet flow rate into four different flow rates;

detecting a buffer circuit depth;

determining the priority associated with a current data packet; and
processing the current packet in response to the current data packet flow rate, the
data packet priority, and the current buffer circuit depth.

Sub B1 [Rewrite claim 7 as follows:]

7. (Once amended) The method of claim 6 wherein the four predetermined flow rates are determined by comparing the service flow's data packet flow rate with a minimum data rate threshold, a maximum data rate threshold, and a mid-level data rate threshold.

A method for providing data packet congestion control for a data network having a buffer circuit, each data packet comprising a priority, the method comprising the steps of:

determining the particular service flow associated with the data packet;
detecting a current data packet flow rate through the data network for the particular service flow associated with the data packet;
quantizing the data packet flow rate into at least one level;
detecting a buffer circuit depth;
determining the priority associated with a current data packet; and
processing the current packet in response to the current data packet flow rate, the data packet priority, and the current buffer circuit depth.

Cancel claims 8-10 without prejudice.